

Russian - Chinese relations: towards an energy partnership

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This paper aims to investigate the Russian-Chinese energy relations in the context of evolution of bilateral strategic relations since 1991. The research is focused on Russia and encompasses three main aspects: strategic approach of Russian-Chinese relations, Russian hydrocarbons production and export potential and prospects for the Eastern Russia. The paper is based on qualitative analysis. It shows that the framework of bilateral relations is globally favourable for creation of costly energy transport infrastructures. The quest for diversification of Chinese energy supplies contributes to the promotion of Russian hydrocarbons exports towards Asia, the latter contributing to diversify Russian energy exports traditionally sent to Europe. However, the modalities of these projects are submitted to the Russian state interests. Moreover, while natural gas reserves are sufficient to meet the Chinese demand, oil production prospects in the East of Russia are uncertain at a long-term perspective.

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1. Introduction

The rebound of economic relations between Russia and China in the nineties is based on the convergence of strategic interests of both countries. After the first years of the transition in Russia - driven by the quest to integrate rapidly the occidental countries community, - Russia is seeking for a more equilibrated approach of its international integration deploying the strategic relations not only with the West, but also with the East.

China is the main pillar of Russian international economic relations outside Europe and Community of Independent States (CIS). While oil and gas exports played a very limited role in the past decade, it has become nowadays one of the main vectors of the Russian-Chinese relations. The economic growth in China fosters a growing energy demand while Russia is looking to diversify its energy exports traditionally oriented to Europe. However, numerous questions remain, firstly, concerning Russian export potential and the potential of its Eastern regions in particular. Second, hydrocarbons exports implicate foreign policy goals aiming to reaffirm Russian international role after the break-up of the Soviet Union and the subsequent crisis of the transition period. Finally, the redefinition of relations between the State and private oil companies towards a growing state control over the industry is shaping the development of the hydrocarbons industry in Russia, and also the production prospects in its Eastern regions.

While several countries are implied into energy networks in Asia, we concentrate on Russian-Chinese relations aiming to put the energy relations into a global context of Russian-Chinese relations and Russian foreign economic policy. Our research is mainly focused on Russia. Also, we put aside the aspects of cooperation in other energy domains (as electricity supplies and partnership in the nuclear domain), and other strategic domains, notably, in the military sphere (arms exports and technical cooperation).

The paper is organized as follows. Section 2 studies the evolution of Chinese-Russian strategic relations since the beginning of transition reforms in Russia. In section 3, we examine the potential for energy partnership in Russian-Chinese economic relations. In Section 4, we discuss the main projects of Russian hydrocarbons exports to China. Section 5 concludes.

2. Evolution of Russian-Chinese strategic relations

2.1. Towards a bilateral partnership

The first years of transition in Russia were dominated by radical economic reforms and desire to integrate rapidly the occidental community. However, this period soon left the place for a more auto-centric approach, which meant a retreat of radical economic reforms and a more equilibrated foreign policy between its Western and Eastern axis. Since the normalization of Soviet-Chinese relations announced by M. Gorbachev in 1989, the Presidents B. Yeltsin and Jiang Zemin announced for the first time "constructive partnership" in 1994, and "strategic partnership" in 1996.

Strategic relations between Russia and China should be seen as a part of the triangle including both countries and the US. Promoting a multipolar world and the desire to counteract the dominance of the US in the post-cold war world are among the common objectives of Moscow and Beijing. Another element is the refusal of interference in internal affairs, notably for the human rights and local separatism issues. So, Russian policy towards China (and *vice versa*) is inversely correlated with the policy towards the US. Consequently, the political or strategic factors play a dominant role in the conception of Russian policy in Asian-Pacific region.

The Russian-Chinese Treaty of Good-neighbourliness, Friendship and Cooperation between Russia and China was signed in 2001. It partially repeats the Sino-soviet treaty expired in 1980, precisely, concerning the respect of territorial integrity and sovereignty, Russian engagement for the "one-China" policy (non-recognition of Taiwan independence), and expansion of links in numerous domains (of which the military one). Further, two articles of the new treaty indicate the military alliance, even if the parties deny this fact and the Treaty doesn't contain a clause of mutual defence¹. Finally, the treaty mentions actual problems related to countries economic inequality issues revealed especially at the regional level. So, Russia and China should renounce any form of pressure and facilitate cooperation in frontier regions (art.14), and cooperate to combat illegal immigration (art.20)².

The bilateral Treaty (2001) consolidated the basis for Russian-Chinese political partnership. However, in spite of the proclaimed strategic partnership, Russian and Chinese interests diverge on several aspects of regional policy in Central Asia.

2.2. Convergence and divergence of interests at the regional level

In Central Asia, China and Russia interact in the framework of the Shanghai Cooperation Organisation (SCO). The SCO was formally created in 2001 by Russia, China, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan³. In reality, the SCO is the continuation of the Shanghai Forum, created in 1996 by the above-mentioned countries except Uzbekistan aiming to stabilize the post-soviet Central Asia. The main goals were the demarcation and protection of the common border and also, for China, solution of ethnic minority problems in the frontier zone. So, regional security is the first objective of the SCO. However, one can note that Shanghai Forum was founded in 1996, a period of tensions in both Russian-American and Chinese-American relations⁴. Later, the regional preoccupation of the SCO will not exclude the orchestrated action of the organization against the US⁵. Moreover, the acceptance of Mongolia, Pakistan, India and Iran as observers reinforces the international role of the SCO.

¹ Both countries engage not to enter into agreements with other countries which can damage the security interests, sovereignty and territorial integrity of the partners (art.8) and will contact each other in case of threat of aggression against the partner (art.9).

² See a more detailed analysis in Wishnik (2001, pp.803-804).

³ In 2004-2005, Mongolia, India, Iran and Pakistan were accepted to SCO as observers.

⁴ One can remember the discrepancies between Russia and the US over the NATO enlargement and also - between China and the US - the Taiwan Strait crisis of 1996. Later, the Shanghai Forum is transformed into Organization in 2001, the year of the NATO intervention in Kosovo and accidental bombing of Chinese Embassy in Belgrade, in the context of critical declarations of the candidate George W. Bush on interior and foreign policy of the both countries. See Facon (2006, pp.28-29).

⁵ For example, concerning the retreat of the American military base from Uzbekistan in 2005.

At the same time, the SCO reveals the conflict of interests between Russia and China as both countries are searching to increase their presence in Central Asia. On the one hand, China demonstrates a growing interest towards this zone which was submitted to its influence in the past. The SCO is the only structure at China's disposal to promote its interests in the region, rich in hydrocarbons. In this way, China and Russia become rivals for access to oil and gas reserves of Central Asia.

On the other hand, the SCO is one of several organizations serving to promote Russian interests in the region. Russia is present through the CIS and panoply of sub-regional blocs and treaties concluded between different CIS states. In this context, the activation of the Eurasian Economic Community (EurAsEC, regrouping Russia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan and, since 2006, Uzbekistan) can be viewed as an attempt to oppose the growing influence of China in Central Asia (Facon (2006))⁶. The reinforcement of EurAsEC arrives when China stresses the importance of economic issues within the SCO. More precisely, the Framework Agreement to enhance economic cooperation (signed in September 2003; and also the action plan approved in September, 2004) fixes the main orientations for 2020 aiming to establish a SCO free-trade zone.

However, the economic mission of the SCO remains weakly defined, while the non-coordinated accession of its members to the WTO puts into question its emergence as a trading bloc⁷. Moreover, the growing competition of Chinese goods in such a case could have negative effects on Russian producers. The latter puts a strong limit for the development of regional trade integration within the SCO. In this context, the Russian Ministry of Economic development and trade officials propose to limit the scope of economic partnership within the SCO. Russian economic interests should be promoted through the EurAsEC while the SCO should be limited to security issues only⁸.

Nevertheless, in spite of numerous discrepancies, the global framework of Russian-Chinese relations creates a favourable context for the development of economic cooperation and the creation of costly energy exports infrastructures.

3. Energy potential of economic relations

3.1. Trade relations outlook

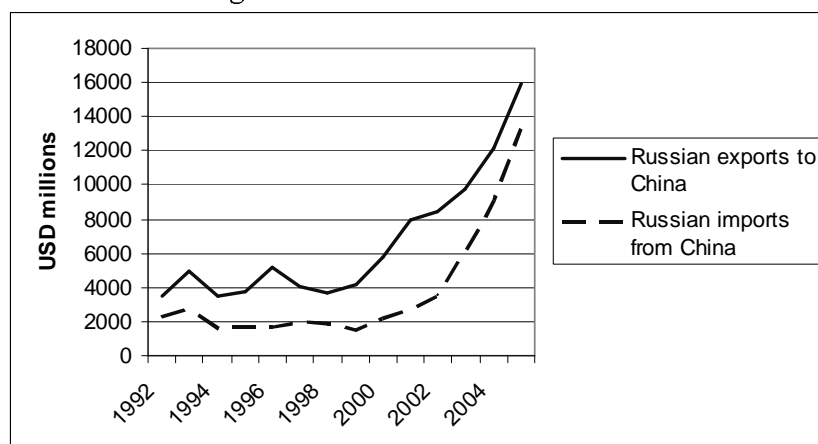
The economic revival in Russia after 1998 and the political consolidation under Putin administration puts the basis for a substantial development of Russian-Chinese economic relations, globally stagnant during the 1990s (figure 1).

⁶ In the same manner, in the political sphere, the Kremlin refusal to militarize the SCO and the interest for the presence of India, Pakistan and Iran in the SCO can testify of the attempt to "dilute" the Chinese influence. Facon (2006, p.34-35).

⁷ Olcott, M.B. "The Shanghai Cooperation Organization: Is it Undermining U.S. Interests in Central Asia?", Johnson's Russia List 219, September 30, 2006.

⁸ As reported by Lukin (2007).

Figure 1. Russian-Chinese trade



Source: UN Comtrade (access February 10, 2007, reporter China)

The bilateral trade quadrupled since the beginning of the 2000s⁹. However, in 2005, China absorbed only 4,65% of Russian exports and provided 7,35% of Russian imports. The part of Russia in Chinese imports was 2,41%, and 1,73% in its exports. Russia has a positive trade balance. However, this situation can be reversed in the near future under the pressure of Chinese exports.

Energy is playing a growing role in bilateral trade (table 1).

Table 1. Structure of Russian-Chinese trade (percent)

Section SITC	Russian exports			Russian imports		
	1995	2000	2005	1995	2000	2005
0 Food and live animals	3,39	7,32	7,18	27,35	6,15	4,74
1 Beverages and tobacco	0,00	0,00	0,00	2,10	0,89	0,08
2 Crude materials, inedible, except fuels	9,92	18,10	20,51	2,16	1,81	0,74
3 Fuels, lubricants, etc.	5,29	13,48	41,25	0,50	2,22	0,97
4 Animal, veg. oils, fats, wax	0,00	0,00	0,00	0,14	0,00	0,00
5 Chemicals, reltd. prod. nes.	33,69	19,83	13,75	2,43	3,76	3,65
6 Manufactured goods	32,72	30,14	15,09	9,45	6,79	13,76
7 Machines, transport equip	10,07	4,15	1,92	5,96	7,19	19,08
8 Misc manufactured artcls	0,85	1,68	0,21	49,91	71,18	56,97
9 Goods not classd by kind	4,08	5,29	0,08	0,00	0,00	0,00
Total	100	100	100	100	100	100

Source: UN Comtrade data, SITC Rev 3, access February 11, 2007 (reported by China)

The part of fuels in Russian exports to China (composed mostly by oil exports) has been growing rapidly. It passed from 5% in 1995 to 41,25% in 2005 resulting from growing volumes of oil exports, growth of world oil prices and weak competitiveness of Russian manufactured products (except military exports).

⁹ We use data reported by China as it presents longer time series (Russian data are available in Comtrade database only since 1996). However, the gap in Russian and Chinese mirror statistics is very important. For example, in 2005, as reported by Russia, Russia exported to China USD 11,217 billion and imported for UDS 7,248 billion. At the same time, China reported USD 15,890 billion of imports coming from Russia and USD 13,211 billion of exports going to Russia (data UN Comtrade, access February 10, 2007). This situation can be explained by the "grey market", notably in the trade of consumer goods between frontier regions. Thus, the official statistics should be taken precociously.

China is the first client for Russian military exports. This situation is backed by common strategic goals, Chinese military imports needs in the context of the European embargo on arms exports to China, and the vital importance of exports for Russian military enterprises. Thus, existing - economical - ties between Russia and China are likely to reduce political risks inherent of long distance pipeline projects.

3.2. Russian energy exports potential

Russia aims the world leadership in energy. The country has the largest proven reserves of natural gas (26,7% of world proven reserves at the end 2004) and the seventh large proven oil reserves (6,1% of world proven reserves at the end 2004, or the non-OPEC country largest oil reserves)¹⁰. Consequently, Russia has a strong production and export potential (table 2).

Table 2. Russian Energy Strategy¹¹ and IEA Projections to 2020

	2002	2020	
		Russian Energy Strategy	IEA, World Energy Outlook 2004
Oil sector			
Production (Mt)	383	450-520	531
Exports of crude and products (Mt)	248	305-350	351
Gas sector			
Production (bcm)	584	680-730	801
Exports (bcm)	169*	275-280	249*

* Net exports

Source: IEA (2004, p. 292).

However, the projections remain uncertain. Two main factors will influence the developments in Russian energy sector:

- improvements of the energy efficiency in Russia (emphasized by the Energy Strategy). The energy intensity of Russian economy is two or three times higher than in developed countries. Therefore, in 2000-2004, the GDP growth drifted the internal gas consumption to the levels projected by the Energy Strategy for 2020¹².

- investment rate in the energy industry and development of production capacities and transport infrastructures (stressed by the IEA).

Oil outlook

After the transition crisis, production started to recover after 1999 with the growth of the oil prices. Since 2000, Russian annual oil output has grown by about 50%, making Russia the largest oil producer in 2006 (figure 2). Over 70% of Russian oil production is exported. After the break up of the Soviet Union, exports became more concentrated on European

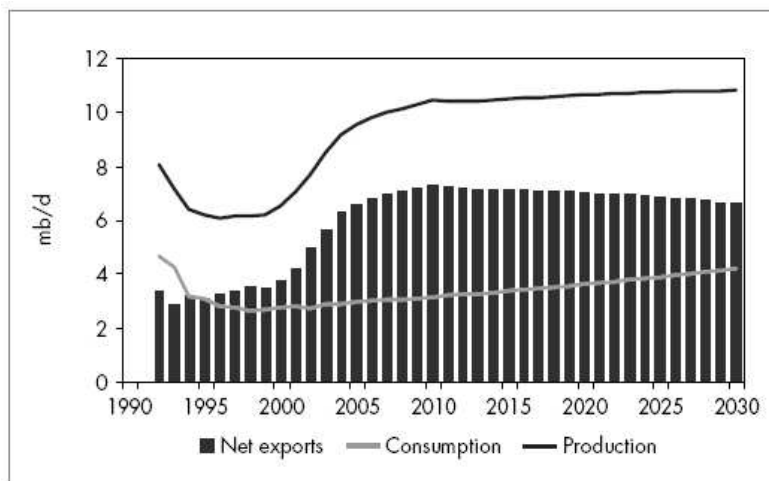
¹⁰ BP (2005). We omit the discussion on the differences of reserves classifications. Russian evaluations are usually higher than occidental ones. For the discussion, see IEA (2002).

¹¹ "Energy Strategy of Russia for the Period of up to 2020" approved in 2003, further "Energy strategy".

¹² Bashmakov, I. "Energy efficiency in Russia and Russian gas export prospects" (in Russian), downloaded from <http://www.cenef.ru/info/books/GasExportsProspects.pdf> , July 2007.

countries (exports to the ex-soviet republics declined during the economic crisis, while exports towards developed countries recovered)¹³. Thus, exports to Asia will enable Russia to diversify its export routes.

Figure 2. Russian oil balance



Source : IEA (2004, p. 301).

However, the sustainability of the production growth is uncertain, given the depletion of major fields and the decline of prospective drilling¹⁴. In fact, recent oil production growth was not followed by new fields' exploitation. The introduction of new technologies fostering wells productivity became the main source of the production growth. The modernization is not completed by a balanced oil replacement policy. The major part of Russian production comes from mature deposits¹⁵. While new projects could compensate the decline of old deposits, the timing of their putting into production is uncertain. Moreover, some of those new deposits are situated in difficult geological and climate areas and thus will require the mobilisation of new technologies. In order to soften these constraints, public authorities have already introduced fiscal advantages promoting the development of fields situated in Eastern Siberia.

The constraints mentioned above can be classified as endogenous. A strong exogenous constraint is set by ultimate undiscovered reserves. According to the United States Geological Survey (USGS), Russian ultimate oil resources (that is, identified resources plus resources to identify at a given probability) are estimated as 158,9 Gb at 95% probability and 229,6 Gb at 50% probability. That is respectively 60% and 66% of ultimate reserves of Saudi Arabia¹⁶. Therefore, if maintaining production at the level of 10 Mmbbl/d, Russia will produce for 44 - 63 years depending from the resources availability (158,9 Gb and 229,6 Gb respectively).

¹³ Russian oil exports to developed countries were 124 Mt in 1988, 91 Mt in 1995 and 126 Mt in 2000, compared to the exports to the ex-Soviet republics : 132 Mt in 1998, 31 Mt in 1995 and 17 Mt in 2000. IEA (2002, p. 110).

¹⁴ See Dienes (2004), IEA (2004), Locatelli (2005), Grace (2005), Moe, Krukov (2006).

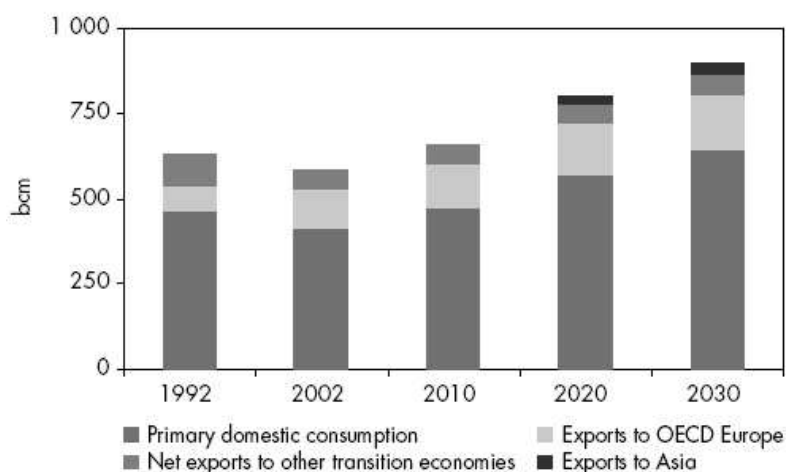
¹⁵ The declining deposits contributed for 7 Mmbbl/d of 8,4 Mmbbl/d of Russian production in 2003. Grace (2005, p. 184).

¹⁶ Boussena *et al.* (2006, p. 115).

Natural gas outlook

Russia is the first world producer and exporter of natural gas. As declared recently by the Gazprom CEO A. Miller, the main question for Gazprom in the next few years is not where to take the gas, but rather when to do it¹⁷. The decline of the gas industry during the transition period was relatively slight and due mainly to the decline of internal consumption (figure 3).

Figure 3. Russian gas balance



Source: IEA (2004, p. 308).

The industry is dominated by Gazprom, a state gas monopolist which possesses the transport network and has monopoly over Russian gas exports¹⁸. The company holds licences for more than 60% of Russian gas reserves and provides about 85% of national production, the rest coming from independent gas producers and oil companies. Yamalo-Nenets region in Western Siberia provided more than 93% of Gazprom gas production in 2006.

Like for the oil industry, providing investments is one of main challenges for the gas industry. In fact, three major fields (Medvejie, Ourengoï et Yambourg) counting for 75% of Gazprom production are currently depleted by 55-75%¹⁹, and most new deposits are situated in more difficult climate and geology conditions and far from existing infrastructures.

Traditionally oriented towards European markets, Gazprom is currently developing a global strategy turning to Asian (and also American) markets. The diversification of supplies to Asia comforts the Russian foreign policy goals.

¹⁷ Presentation of A. Miller at the 23rd World Gas Congress in Amsterdam, June 2006.

¹⁸ The *de facto* monopoly was confirmed by law in 2006.

¹⁹ Energy strategy (2003, p. 58).

State interests in Russian energy policy

Several facts confirm the increasing state control over the hydrocarbons industry in Russia. The most important are the Yukos affair and transfer of its major assets to Rosneft (state oil company), the increase of State participation in the capital of Gazprom to over 50%, hardening the regime of Production Sharing Agreements and overtake by Russian state companies of majority participations in Russian hydrocarbons industry hold by international oil companies (for example, Kovykta and Sakhalin II cases).

The state control over natural resources provides to the state the control over the development path of the industry and over the distribution of the rent, while allowing the use of export potential as a foreign policy instrument. According to the Russian Energy Strategy, *"during the coming years, energy exports will remain the key factor for the development of national economy as for the economic and political position of Russia in the world community"* (p. 50). The pursuit of the Russian political interests in the world is considered as one of the strategic interests for the development of the oil and gas industry (pp. 61, 71). Therefore, developing energy relation with China enables Russia to realize its foreign policy goals and comforts the ambitions to become a global energy superpower.

Hydrocarbons exports projects towards Asia can also contribute to the development needs of the East of Russia. These regions are facing a particularly difficult economic and demographic situation, while the neighbourhood with over-peopled China contributes to a gradual integration of the East of Russia to the network of Chinese economic ties. Thus, considering Russian regional development objectives is a necessary condition for realization of strategic projects on the Asian direction²⁰.

3.3. Chinese energy demand prospects

In the end of 2003, China surpassed Japan in terms of energy consumption and became the second oil consumer after the US²¹. Being net energy importer since 1993, China produced in 2006 about 3,8 Mmbbl/d of oil (slightly more than in 2005), and consumed 7,4 Mmbbl/d of oil (0,5 Mmbbl/d more than in 2005, that is 38% of the world total oil demand increase in 2006). Most imports come from the Middle East and Africa²². China is vulnerable for its oil supplies as they transit through the Malacca Straits.

The growth of Chinese oil consumption reflects the economic growth and the improvement of the level of life. According to the IAE (2006) reference scenario, oil demand in China would reach 8,4 Mmbbl/d in 2010, 10,0 Mmbbl/d in 2015 and 15,3 Mmbbl/d in 2030. At the same time, China seems having attained the production plateau, situated at the level of 3,6-3,8 Mmbbl/d and a decline is forecasted for 2015-2030 (the 2030 production level is estimated at 2,8 Mmbbl/d). Consequently, China is becoming a major oil importing country. Its oil dependency (net imports as percentage of consumption) is expected to grow from 46% in 2004 to 55% by 2010, 63% in 2015 and 77% in 2030.

²⁰ As stated by the Russian Minister of Foreign Affairs S. Lavrov, *"Russia can join the integration processes in the vast Asia-Pacific region only through the economic growth of Siberia and the Russian Far East; in other words, the modernization of these regions is an axiom"*. Lavrov (2006).

²¹ However, Chinese imports are only about a quarter of those of the US.

²² EIA estimates, *EIA Country Analysis Brief for China*, updated in August 2006.

However, several factors can limit the growth of oil demand in China²³:

- slowing down of the economic growth;
- voluntary transport policies for the development of collective transports;
- structure of energy consumption in power sector (notably recourse to natural gas) and reform of internal energy prices (abandon of administrated pricing).

As for natural gas, the growth of national production is not likely to cover the growth of domestic demand projected for 5,1% per year for 2004-2030 (IEA (2006)). However, natural gas provides at present only about 3% of Chinese energy mix (dominated by coal at 70%). While China declares the will to increase the recourse to natural gas aiming 10% of energy mix by 2020, according to the IEA projections, the part of gas in energy mix will reach only 5% by 2030. That reflects strong constraints over penetration of natural gas in China, notably, long distances between production centres and consumption centres, regional fragmentation of the Chinese gas market and lack of transport and distribution infrastructure, and also the rigidities of internal market (quotas in gas distribution and administrated prices) and price distortions (gas price is superior to coal prices). The latter is rooted into the policy of energy auto-sufficiency promoted by Chinese authorities²⁴.

Consequently, strong uncertainties persist about the level of production, consumption and imports of natural gas. The imports projections are very uncertain ranging from 45 to 100 bcm by 2020²⁵. The IEA (2006) reference scenario foresees the rise of Chinese imports from around 1 bcm in 2004 to 56 bcm by 2030.

In this context, Russia and the Caspian region participate to the Chinese strategy of diversification of the hydrocarbons supplies, though the Middle East and Africa remain its main energy suppliers.

4. Hydrocarbons export projects

The idea of gas and oil pipelines from Russia to Asia-Pacific is not recent, the discussions on the eventual pipelines routes going up to 30-40 years. In a new geopolitical environment and new oil and gas market conditions, these projects are likely to be realized.

4.1. Eastern Siberia and Far East energy potential

The geographical situation of the Russian East enables it to become a bridge between Russian energy resources and Asian markets. According to the Russian Energy Strategy (2003), the part of Asia-Pacific region in Russian oil exports will increase from 3% at present to 30% in 2020, and will reach 15% for natural gas. At the same time, in perspective, a substantial part of oil and gas production will come from Eastern Russia (up to more than 20% of Russian total oil and gas production by 2020).

²³ Boussena *et al.* (2006, p. 177-178).

²⁴ Boussena *et al.* (2006, p. 180-186).

²⁵ Andrew-Speed, Philip (2004). *Energy Policy and Regulation in the People's Republic of China*, Kluwer Law international, cited in Boussena *et al.* (2006, p.182).

Table 3. Eastern Russia oil production prospects, Mt

Year	Energy Strategy (2003)		Sagers (2006)		Kontorovich, Korjubaev (2006) Oil and gas condensate, prospects		
	Russian total oil production	East Siberia and Far East	Russian total oil production	East Siberia and Sakhalin	Russia (total)	East Siberia	Far East (Sakhalin)
1990	516	2	516,2	2,0			
1995	307	2					
2000	324	4	323,5	3,9			
2005	420-445	7-9					
2006			480,6	9,1			
2007			490,5	13,9			
2008			500,4	18,8			
2009			512,2	25,5			
2010	445-490	27-38	523,0	28,5	500	12,5	23
2015	450-505	45-70	564,7	40,2	527	42	25
2020	450-520	71-106			590	100	30
2025					600	110	32,6
2030					620	130	35

Source : Sagers (2006, p. 541), Energy Strategy (2003, p. 62), Kontorovich, Korjubaev (2006).

According to different assessments, Eastern Russia will provide more than 40 Mt/year of oil by 2015 and more than 100 Mt/year by 2020 (table 3). The bulk of oil production from Eastern Russia will be exported to Asia-Pacific region, with exports from the East of Russia to China reaching 110 Mt by 2030 according the estimates of Kontorovich, Korjubaev (2006) from the Siberian branch of Russian Academy of Sciences (table 4).

Table 4. Oil exports to Asia-Pacific region, Mt

	2010	2015	2020	2025	2030
<i>Oil</i>					
West Siberia	20	30	35	35	30
East Siberia	6	20	75	75	75
Sakhalin	18	20	25	27	35
Total	44	70	135	137	140
of which to China	32	50	81	85	90
<i>Oil products</i>					
Total	9	10,2	11,5	11,8	12
Of which to China	8,5	9,7	11	11,3	11,5

Source: Kontorovich, Korjubaev (2006)

Table 5. Eastern Russia gas production prospects, Bcm/year

	Energy Strategy (2003), moderated and favourable scenarios		"Eastern Program" project, June 2007	Gazprom (2007)
	Russian gas production, total	Gas production of Eastern Siberia and Far East	Gas production of Eastern Siberia and Far East	Gazprom production in Russia (prospects)
1990	640	3		
1995	596	3		
2000	584	7		
2005	610-615	8		555
2010	635-665	31-52	27	550-560
2015	660-705	86-97	85	
2020	680-730	95-106	150	580-590
2030			162	610-630

Source: Energy Strategy (2003, p. 72), Dementiev (2007), Gazprom (2007), Kommersant, June 18, 2007.

As for the natural gas, the production in the Eastern Russia will also increase, its passing from less than 10 bcm in 2005 to about 150 bcm in 2020 and 162 bcm in 2030 (table 5). The strategy of development of gas industry in the Eastern Russia will be based on the "Program of creation in Eastern Russia and Far East of a unified system for production, transport and distribution of gas with consideration of possible exports towards Chinese and other Asia-Pacific markets" (*Eastern Program*), which was approved by Government on June, 15, but is not yet adopted *de jure*, the legislative act being scheduled before the end 2007.

According to the Eastern Program project, the pipeline exports towards Asia-Pacific region will reach 25-50 Bcm/year by 2030, while the LNG exports are forecasted at the level of 28 Bcm/year. The Program foresees also the sequence of fields development. However, it is likely to be adjusted in relation to the recent takeover of the Kovykta giant gas field in Eastern Siberia by Gazprom²⁶.

4.2. Oil export projects

China is searching to accede directly to hydrocarbons reserves of oil producing countries. However, investments in Russian upstream are limited in the context of growing state control over strategic resources. Therefore, China is limited to take minority stakes in certain upstream projects²⁷. It can also multiply its import supplies.

There were several projects for construction a pipeline connecting Eastern Russia to China. Firstly, Yukos oil company had been promoting the route Angarsk (Eastern Siberia)-Daqing (China). The pipeline was to be financed partially by Yukos²⁸. However, the

²⁶ The internal gas consumption in East Siberia and Far East would reach 32 Bcm/year by 2030 (46 Bcm/year if considering the gas demand of gasochemical industry). "Gazprom" at the East of Russia, entering the Asia Pacific markets. Gazprom press conference, June 26, 2007 (in Russian) www.gazprom.ru.

²⁷ The attempt of takeover by CNPC of the Russian oil company Slavneft in 2002 was not successful because of the veto imposed by the Russian State (the privatisation of Slavneft was finally realized for the profit of Russian oil companies TNK and Sibneft). Later, CNPC was interested to get a participation in Yuganskneftegaz (the main production unit from Yukos) in 2004, but this transaction was realized for Rosneft profit. China's participation in Rosneft privatisation in 2006 was also limited. However, in August 2006, Sinopec succeeded the acquisition of 49% of Udmurtneft capital (production of about 6 Mt in 2006) from TNK-BP, Rosneft possessing 51%.

²⁸ Yukos signed a contract for deliveries of oil to China (20 Mt in 2005-2010 and 30 Mt afterwards) in May 2003, relying on rail transport as temporary transport solution. *Izvestiya*, May 29, 2003.

disagreement over the property of the pipeline became a major constraint for realization of the project.

The alternative project, longer and more costly, was promoted by Transneft (oil pipeline state monopoly) and Rosneft (state oil company). It proposed to deliver oil towards the Russian port of Nakhodka, allowing ship supplies to China, Japan, other Asian countries and also the US, therefore, a lesser dependency from buyer²⁹. Preservation of state control over the pipeline also contributed to incline Moscow towards this project.

While privileging the Japanese alternative, the final project of East Siberia - Pacific Ocean pipeline (ESPO) foresees a separate section towards China (figure 4). The foreseen capacity is 80 Mt/year (30 Mt delivered to China at the Taishet-Skovorodino-China section, and 50 Mt for the section Skovorodino-Nakhodka). The construction (initially estimated at USD 11,5 billion for the two stages)³⁰ started in April 2006. The start of exploitation of the first section is expected for the end 2008³¹.

After the start of the first stage of the ESPO pipeline, 15 Mt will be delivered to China and 15 Mt to Kozmino (Pacific coast)³². While the project is not yet realized, exports to China are delivered by rail (13 Mt of oil and oil products exported by Rosneft in 2006).

Figure 4. Oil pipelines towards China and Japan



Source: BBC

However, the assessment of reserves of Eastern Siberia is still approximate. Therefore, at first, the pipeline was supposed be filled with oil coming from Western Siberia for about a half of capacities at least until 2030³³. Nevertheless, according to recent data, now, if there will be recourse to West Siberian oil, it will be very limited. The first stage of the ESPO project is backed by sufficient oil production in Eastern Siberia³⁴.

²⁹ One can remember the defeat of Gazprom in the Bluestream project going under the Black Sea to Turkey when Turkey refused to buy the natural gas at a Gazprom price and negotiated a lower price level.

³⁰ In 2007, the cost of the first stage of the project, initially estimated as USD 6,6 billion, is reviewed to more than USD 11 billion. That can be explained by a 100 percent rise of prices for tubes, change of route further from the Baikal Lake and consequent increase of length of the pipeline and also difficult climatic and geological conditions and lack of infrastructures (e.g. power grids). *Nezavisimaya Gazeta*, May 31, 2007; *Nezavisimaya Gazeta*, July 20, 2007.

³¹ The section from Skovorodino towards China is financed by the Chinese partner. Source: Transneft and ESPO official websites, www.transneft.ru, www.vstoneft.ru, access July 2007).

³² Transneft, "First 1000 km of ESPO are built", July 13, 2007 (in Russian), www.transneft.ru.

³³ Kontorovitch A. "Going East", *Oil of Russia*, n°2, 2006, www.oilru.com.

³⁴ For 2009, the foreseen deliveries through ESPO will be composed of 2 Mt from Verkhnechonskoe field (TNK-BP oil company), 0,7-0,8 Mt from Dulisminskoe field (Urals Energy), more than 2 Mt from Talakan field

As for the second stage, sensible uncertainties remain about reserves availability in the Eastern Siberia. According to A. Varlamov from the Russian Ministry of nature, the existing explored fields in Eastern Russia are not sufficient to provide exports of 80 Mt. The development of already explored fields can provide only about 35 Mt/year, and strong investments are needed to change the situation³⁵. Consequently, the second stage of the project can be postponed until the required production growth³⁶.

In this context, the government pressures for increase of private investments in exploration in the East of Russia³⁷. Inversely, oil companies point to the hard fiscal burden and therefore, the preference of fiscal liberalization for development of new fields and need of state investments in infrastructures. Moreover, the protection of the "first finder" rights should be improved in order to boost private investments in exploration (Moe, Krukov (2006)).

Further, the licence conditions will be hardened in order to connect the timing of production to the ESPO filling up needs³⁸. Finally, number of licences for Eastern region deposits will soon be attributed³⁹.

4.3. Natural gas export projects

In the first half of the 1990s, Gazprom didn't show any substantial interest towards Asia-Pacific region. It can be explained by political tensions on the Eastern axis and the attraction of traditional European markets allowing immediate opportunities in context of low prices and non-payments problems on the internal market.

Asian markets figure as part of Gazprom export strategy since 1997⁴⁰ in the context of the drift to the East of production centres, and the growing potential of demand in Asia. Asian exports comfort Gazprom's strategy of diversifying export routes and strengthen its negotiation capacity on both European and Asian markets. In June 2002, Gazprom was named coordinator of the programme for a unified system of the production, transmission and distribution of gas in Eastern Siberia and Far East⁴¹. In June 2003, A. Miller (Gazprom Chairman) emphasized the development of the East of Russia proposing the plan of production regions and pipeline infrastructures enlarged to Eastern Siberia and Far East⁴².

(Surgutneftegaz) and 25 Mt from Vankorskoye field (Rosneft) and all these fields are situated in East Siberia. However, while Vankorskoye field is administratively situated in East Siberia, geologically it belongs to the West Siberian basin. Note that the level of production of 25 Mt/year at Vankorskoye field had been previously foreseen only for 2014 (See "First 1000 km of ESPO are built", July 13, 2007 (in Russian), www.transneft.ru; and <http://www.vstoneft.ru/news.php?number=434>).

³⁵ According to his calculations, the investments in exploration of 6-8 billion rubles/year are necessary, while the federal budget allocated only 2,5 billion rubles in 2006 and 3,9 billion rubles in 2007. *Kommersant*, June 20, 2007.

³⁶ *Vedomosti*, June 20, 2007. In April 2007, the Head of Transneft said that the second stage could be built 6-7 years after the start of exploitation of the first stage (the ESPO news, <http://www.vstoneft.ru/news.php?number=428>).

³⁷ The Prime Minister M. Fradkov evoked the increase of oil export tax if oil companies don't raise their investments in Eastern Siberia. *Kommersant*, June 20, 2007.

³⁸ Actually, several licence agreements don't precise the volumes and timing of production. For September 1st, 2007 the oil companies have to prepare the propositions for amendments of the licence conditions. *Vedomosti*, June 20, 2007.

³⁹ 40 fields with total reserves of 24 Mt of oil and 141 bcm of natural gas. *Nezavisimaya Gazeta – Energiya*, July 10, 2007.

⁴⁰ Stern (2005, p. 156).

⁴¹ Decree 975-r of Government of Russia, 2002. Stern (2005, p. 157).

⁴² Presentation at the 22nd World Gas Conference in Tokyo. Stern (2005, p.157-159).

Recently, in conformity with this strategy, Gazprom have increased control over resource base of the Eastern regions. In 2006, the gas giant took part in the offshore project Sakhalin II (previously developed without Russian partner) and obtained from TNK-BP the its participation in Kovykta project. Finally, Gazprom pressures government to grant the licence for exploitation of Chayanda giant gas field outside the standard competition procedure.

Different supply routes to China were discussed⁴³.

The first option was to take as basis the Kovykta field (Irkutsk region). The licence is hold by Rusia Petroleum (controlled at 63% by TBK-BP before June 2007, the rest of capital being divided between a Russian holding Interros and local authorities)⁴⁴. The production of Kovykta could reach 40 Bcm/year, satisfying, firstly, the local needs and then expanding to Chinese and South Korean markets⁴⁵. However, this project was blocked by the need to define the modalities of Gazprom participation.

The second option would be to develop exports based on the Yakutsk region fields (notably, Chayanda field)⁴⁶. Despite the fact that these fields are less advantageously situated than Kovykta or Sakhalin, this option became a priority face to Kovykta.

According to the Protocol signed in March 2006 between Gazprom and CNPC, the development of natural gas exports to China will proceed in two stages (figure 5) :

-at the first stage, the gas will be delivered to China by the Western route through the western part of the Russian-Chinese border based on the traditional production regions of West Siberia (Altai project, 30 Bcm/year, 2800 km, cost estimate USD 4,5-5 billion). According to A. Medvedev (Head of Gazprom export unit), the decision about Kovykta will not influence the Altai project⁴⁷.

-at the second stage, the Eastern route will be created going from East Siberia and Sakhalin fields (38 Bcm/year). It will also take into account the route of the ESPO oil pipeline⁴⁸.

After the recent takeover of Kovykta, Gazprom could modify the order of putting into production of the East Siberia fields while satisfying the objectives of the Eastern Program⁴⁹.

⁴³ Even if Gazprom declares that it provides gas from a *unified* transportation system (*i.e.* without reporting the origin of the gas), we suppose that the choice of pipeline route should be related the choice and sequence of development of gas deposits.

⁴⁴ In June 2007, BP-TNK and Gazprom agreed on the sale to Gazprom of BP-TNK participation in Rusia Petroleum and of 50% of the capital of the East Siberia Gas Company charged with the gasification of the Irkutsk region for the price of about USD 700 million. BP-TNK was threatened to loose the licence for Kovykta because of the non-respect of licence conditions (notably, the delays of production, the latter being justified by the absence of transport infrastructures controlled by Gazprom). The transaction doesn't exclude the return of BP-TNK into the project by a procedure of assets exchange with Gazprom and as a minority stakeholder. *Kommersant*, June 23, 2007.

⁴⁵ <http://www.tnk-bp.ru/operations/exploration-production/>, access February 9, 2007.

⁴⁶ Production licence for Chayandinskoye field is not allocated yet. However, Gazprom pressures for the attribution of the licence for Chayanda field and Sakhalin 3 without competition, arguing the satisfaction of East Program objectives. *Kommersant*, June 18, 2007.

⁴⁷ "Gazprom" at the East of Russia, entering the Asia Pacific markets. Gazprom press conference, June 26, 2007 (in Russian), www.gazprom.ru.

⁴⁸ *Idem*.

⁴⁹ As declared at the Gazprom press conference, June 26, 2007 ("Gazprom" at the East of Russia, entering the Asia Pacific markets). Previously, Gazprom had projected the development of Kovykta starting in 2017. *Vedomosti*, June 26, 2007.

Figure 5. Natural gas pipelines towards China

Source : Gazprom (2007, p. 56).

Finally, the question is about the equilibrium of Russian gas balance and the capacity to satisfy export contracts and the growing internal demand. The latter depends on the improvement of energy efficiency in Russia, the evolution of Russian energy mix towards less gas consumption, the increasing recourse to gas of independent producers and associated gas, the gas imports from Central Asia, the development of new projects and the construction of necessary infrastructures.

⁵⁰ Stern (2006, p.23).

5. Conclusion

The promotion of the multipolar world is among the most important common objectives of Moscow and Beijing. However, the Chinese economic growth can enable it to become a regional power. Thus, the Russian strategy aims to conciliate, firstly, the objectives of integration (also for the geopolitical reasons) and, secondly, the objectives of protecting of Russian national interests.

In the energy domain, the quest for diversification of Chinese energy supplies contributes to the promotion of Russian oil and gas exports in the Eastern direction and the diversification of the Russian energy exports. However, while the private oil companies are searching to promote the Russian exports to Asia, the modalities of these projects are submitted to the Russian state interests (and perhaps also to those of the national oil and gas companies). Moreover, there is a strong uncertainty about the cost and timing for development of the Eastern Siberia reserves. While the natural gas reserves are sufficient to face the Chinese gas demand, the oil production prospects are limited. For the coming years, Russia arrives to coordinate the East Siberia production and the Chinese exports. However, for a longer perspective, the potential of oil exports seem to be more limited if maintaining European deliveries.

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